

COMMITTEE ON JOINT SCHOOL BUILDINGS

July 27, 2004

7:00 PM

Chairman Herbert called the meeting to order.

The Clerk called the roll.

Present: School Committee Members Herbert, Cote, Kelley (late)
Aldermen Roy and Garrity

Absent: School Committee Members Beaudry and Perry
Aldermen Porter, DeVries, Thibault

Messrs: T. Clougherty, J. Cotton, D. Thompson, A. Jefferson,
K. Cornwell

Chairman Herbert stated we don't have a quorum and the committee can't take any action as a committee, but we are allowed to receive information and that's primarily what this meeting had on it's agenda anyway. Most importantly is the first item where we're going to see a presentation in reference to the Facility/Energy Management System that's undergoing renovation and upgrade as part of the design/build project for the school system.

Chairman Herbert addressed Item 3 of the agenda:

Presentation of Facility/Energy Management System by Johnson Controls.

Tim Clougherty, Deputy Public Works Director, stated as you mentioned, we have representatives here with us this evening from Johnson Controls. To my right is Jim Cotton, the area sales manager and to my left is Doug Thompson, the account executive and they are going to be presenting some of the features and benefits of the system that's being installed in 21 of our schools that are under the design/build program.

Jim Cotton stated we have just a brief agenda. A little bit on Johnson Controls, company background, then we wanted to get into the fundamentals of the building management system so you folks can understand exactly what it is and what it does. Hopefully we're not speaking above or below you but ask any questions you want along the way and at the end we'll also have some time for questions.

We're going to talk about the capabilities and benefits that Tim had discussed. Again, Doug Thompson is account executive, responsible for Manchester schools. I'm the area sales manager responsible for the Northeast area and ultimately responsible for this project. Johnson Controls is a Fortune 100 company with over \$24 billion in sales last fiscal year. This year we'll be above that number and we have 120,000 employees worldwide. Established in 1885 and there's two divisions. We're part of the controls division, which is responsible for the energy management system and our service business for facilities, and we are located and headquartered in Milwaukee. We are a global company but we have a local presence. In New England we have 300 employees, we have seven branch offices. We have an office right here Manchester over on Candia Road and 40 employees and a number of them have children that will be attending schools that we're working on. The controls division, really what our goal is we manufacture and install, operate and maintain mechanical and electrical systems for the purpose of controlling the use of heating, ventilating and air conditioning equipment, lighting, security, fire, in non-residential buildings. Again, that aligns exactly with the project that you folks are installing in the schools. With that, I'm going to turn it over to Doug on the technical end of it to just discuss a little bit about what a building management system is and give you a brief overview of our installed system.

Doug Thompson, Account Executive, I'd just like to highlight and keep it at a high level what a building management system is, some its features and capabilities of what in the end it will do for the Manchester School Department. So a couple of other names for a building management system is also a DDC system, a direct digital control system, also known as an energy management system and I think I heard tonight a facility management system, all interchangeable. What does a building management system do? It is the intelligence behind the heating, ventilation, and air conditioning equipment. Whenever you build a building you have mechanical equipment, this mechanical equipment does not have brains. What we do is we package it with the brains so it knows how to operate correctly. A building management system is the communications and interface tool behind this mechanical equipment. It's your eyes and ears on how this building is operating and how you visualize the mechanical equipment. This is a typical layout of what a building might look like or energy management system might look like. This is how you interact with this system, the computer, a workstation, over protocol. We use Microsoft Internet Explorer to communicate with all these end devices. So in your schools you're going to have boilers, possibly some chillers, definitely some fan systems, whether they are air handling units or exhaust fans. I know we have lighting in a few of the schools that we control, on/off control. Obviously there are some pumps for hot water pumps, condensate pumps, etc. And what this is here in our circumstance at Manchester schools is City of Manchester's backbone. It's a fiber backbone. We use that fiber backbone

and reside, each of these will be in a school and what's we call an network automation engine and it interfaces with each of the pieces of equipment and in the end the user interface communicates with all of them. So just briefly I have a couple of quick slides on what we're actually putting into the Manchester schools. This is the 21 schools and I believe they have a City building here, each one of these buildings if I go back to the slide, will have a controller like this installed and it will be communicating to the boilers and chillers. So here is what we call a network riser of the school system when it is complete. There's 21 schools on the system. So if you're in this building and you can get onto your Intranet, you'll be able to communicate with any of these schools with non-proprietary software, just Windows 6.4, you can download it for free on the Web with user passwords, there's 27 different levels of user passwords, so if you don't want a certain person to be able to control the system or get into the system, it has a security capabilities. But if you have ability to get on this network, you will be able to see any of the schools, and if you're home and you have the ability to dial into this network, you'll be able to see the schools and we'll see where that plays and the features and benefits. So this is just a typical one of the schools. This is Parkside, again, there's 21 of them, this is the device I spoke about, the network automation engine, and this is the supervisory control, the high level controller and then it is trunked within the building on what we call an N2 communications bus and it talks to all of the different DDC (direct digital controllers), whether they're controlling in this case right here it's a boiler or here it's a rooftop unit and then there's some heat recovery units, the ventilators under the windows in each of the classrooms. So this is a typical setup of Parkside, and again, there are 21 sites that will be very similar. Parkside is a medium size school. This is just what we call the system architecture for a typical school. What I'm going to go into now is a little bit about capabilities and benefits of what this system does. Each of these is controlling a piece of mechanical equipment and you need a controller to operate the mechanical equipment. What I'm going to talk about as far as capabilities and benefits is really the software package that sits on top of these controller, the interface. The system has the capability of monitoring and controlling all schools within the Manchester School District with one building management system. As we saw earlier, there was a network that tied in each of the schools so they are all residing on one system with one user interface ability. What does this do for Manchester schools? It optimizes the staffs and reduces troubleshooting and diagnostics time. It does this because you can be at Parkside and access a school remotely, if you get a pager or an alarm, you can understand what's happening within that other school so you can dispatch the necessary personnel or actually change a set point or enable a fan to go on from a remote site. This also increases the dependability and reliability of the building management system for the same reasons. Our overall objective and benefit here is to contribute to the ideal learning environment by authorizing the heating, cooling and air quality systems. Obviously there are many different things that go into creating an excellent

learning environment for these students and Johnson Controls expertise resides in the heating, cooling and air quality systems. Another one of the capabilities is that trending a building system in environmental conditions. A trend is essentially where you track something. You can also use the term log; you take a step point of a classroom temperature and you can log it for however long you want, it could be six months it could be a couple of days, whatever want. A typical school you're going to be monitoring the outside air temperature, your hot water supply systems and the benefit of monitoring and trending these points is you can take that raw data, which is DDC systems are full of inputs, analog inputs, and you can turn that data into reports that benchmark the building performance. You'll know it is doing against the other schools, how it would do against schools in different parts of the country, and more beneficial, how it did the day before or at that same period during the year before your six weeks prior. Trending also allows you to predict some problems in advance of them actually happening and obviously before they affect the students and the staff. If you start to see a trend that the hot water supply temperature starts to dip, even if it's over a few days you might have a gas valve that's starting to get clogged up or something's wrong, so it's a flat. It allows you to see these things happening and you can solve the problem before it reaches the administration and the students. The last benefit on the screen is service equipment to maintain life cycle. Essentially another thing you can trend is on time, what we call status. So you'll know how long the equipment is running for. A lot of people will go out and just change filters quarterly or semi-annually, so you utilize this system with a computerized maintenance management system and you tie the two together and you can perform your maintenance based on run time. So you're not just going out and changing filters at six month intervals, you're actually changing that filter when it gets dirty because you have a sensor across that filter that says change that filter. So you're actually saving money and doing the right thing for the students and the staff. Another capability of this system is alarm notification through pages, email, fax or phone. Because you're on the Intranet and because of the software capabilities, you can get an alarm notification of high water temperature or low water temperature, a boiler out alarm, you can get it paged, you can get it to your Nextel, you can get it to over an email and it also has an escalation process. So if somebody does not dial back into the system or log on to the system and acknowledge that alarm, it escalates to the next person. You can also have it dispatch a specific contract if so desired. Again, the benefit is to minimize the disruptions to the students and staff. If somebody that's on call gets a page in the middle of the night that says the boiler flame has gone out, you can send somebody down there or himself down there to turn the pilot back on or ignite the boiler or if need be get a mechanical contractor in there to fix it. Again, what we're trying to do is optimize uptime. We don't want any students home on snow days when it's not snowing out. The last benefit here is acknowledging and diagnosing an alarm from a remote location. This system is Tim gets a page or one of his guys gets a page, he can get into the

system, into the Intranet and he can diagnose it. He can look up and say okay this can be taken care of in the morning or I need to get down there right away. So because it's a Web based system, he has the ability from a remote location to connect to the system and acknowledge the alarm and again whatever method procedure that alarm dictates, the criticality of it, he take care of it. I will turn it over to Jim Cotton for the last few minutes.

Mr. Cotton stated what you folks want to do I'm sure is to maximize your investment in what you've done. You've purchased a lot of new mechanical equipment in the schools to upgrade them, to deliver a quality environment for the students and this system is going operate that equipment to its maximum capability. Like any software system and any building system, it's got to be utilized to all of its capabilities, No. 1 to maximize your investment and secondly is that we need to have the training of all the dedicated users to makes sure that they know how to use the system appropriately, properly and maximize your investment. So that's really the closing slide and we'll open up for any questions that you might have regarding the presentation.

Alderman Garrity asked Tim, are all 21 schools going to go on line at the same time?

Mr. Clougherty answered no, we met this week to formulate to further the plan for bringing all 21 schools up and exactly how that's going to integrate with our facilities division, how it's going to affect our day to day operations, our night to night operations more particularly. We are going to have two separate systems operating concurrently, but we're hoping to minimize that by migrating quickly with the information database at all 21 schools and then progressing further when we're installing the mechanical systems, bringing more points on line and populating the database for that.

Alderman Garrity asked what schools are going to be online this fall? Are there going to be any schools online this fall.

Mr. Clougherty answered we anticipate Smyth, Gossler and Jewett I believe minimally to be online and I know we're working diligently to bring West and Central online as well because those new areas are going to be turned over very soon.

Alderman Garrity stated I can tell you as a former School Board member I can remember being in the schools in the dead of winter and every window is open in the school because nothings under control. Installation costs for all 21 schools? Do you have a number for us?

Mr. Clougherty answered we don't have a total installation cost right now but I can get that to you.

Chairman Herbert stated just a couple of things I want to point out. The environment we're controlling is home for most of the day for something I the order of 18,000 people or more, which is larger in population than most of the municipalities in the State of New Hampshire. I think it is probably bigger than some of the cities, and New Hampshire has small cities I'll admit, but still, 18,000 people's environment is being controlled or will eventually be controlled by this system, so it's a pretty sophisticated and important system. The other question I have is and Mike [Garrity] asked how much the system itself costs, but could you ballpark how much the taxpayer has invested in all of these points that are used in the HVAC and all that kind of thing that this is going to control. That number has got to be huge. That's the kind of investment we were starting to utilize better, but it must be in the multiple millions of dollars.

Mr. Clougherty stated when we're talking about mechanical systems specifically, we've always said that mechanical systems are a vast majority of the systems that are being installed. One of the requisites in the program was to improve the learning environment and a direct way to do that is by improving the indoor air quality. So we're bringing all of the schools, many of which were built prior to 1920, the vast majority of them probably built in the 1950 era, 1950s and 1960s, that currently have no ventilation systems, we're installing ventilation systems, we're installing air handling units and heat recovery units, replacing boilers that are aged, so when you look at it from a dollars and cents perspective like that, I think you could safely say that it's probably 30 percent of the program overall, which would equate to somewhere around \$30 million.

Chairman Herbert stated the other question I have is my understanding or it seems to be that there would be some central location eventually when everything is up and running and all of the various pieces of equipment are tied into the system, is there going to be for example a computer or two over at Highway where somebody can basically visually monitor from their screen the entire system? And is there going to be a central location or will you be able to do it from basically anywhere, your laptop at home or something? How is that going to work?

Mr. Clougherty answered both are true. We're going to have a dedicated workstation over at your facilities division that will be utilized for printing trend reports and things like that and general user access for our maintenance folks, myself and others. But the type of system that it is being Ethernet based that allows us the capability to tailor the user to the information that they need to see. Some of the administrative staff in our office on a daily basis will be able to access information or they will get reports automatically if we have alarms come in

allowing us to dispatch a mechanical maintenance person or an electrical maintenance person depending on the type of alarm that comes in, but they necessarily see all of the data that a higher level user would see. Did that answer your question?

Chairman Herbert stated I'm just trying to visual it, everybody has seen the Public Service types of screens with all the lines and everything has a point and there's alarm systems and they can tell when something's going down or something's not acting right.

Mr. Clougherty stated one of the things that Doug was talking about is directly related to our discussion last night at the Board of School Committee meeting of the Building and Sites Committee. We talked about carbon dioxide levels at Highland Goffs Falls School. What we're going to be doing is installing carbon dioxide detectors in the schools in most like two representative locations. One on each floor and what that will allow us to do, I'll set up some trends that trend the carbon dioxide levels in those areas. I'll also trend the supply air temperature, the heating valve position, the outside air temperature and the status of the fan. Now the trend is a tool that allows you to track something over time. We know what the school hours of operation are, I'll get the data on when the school is actually occupied after hours and I will be able to track very specifically when there are a maximum quantity of students in the building, what are our carbon dioxide levels doing. Are they going up, they going down, are they staying pretty constant at an acceptable level, are they too low or are they too high, and based on that data we can implement other strategies that maximize the quality of the air.

Alderman Garrity asked Tim, when Chris was asking about who is going to monitor the system. Is that going to be an added staff at your division or is this something that Johnson Controls will provide? How is that going to work?

Mr. Clougherty answered right now we don't have any maintenance contracts with Johnson Controls or any other provider for full-time monitoring. We do have some additional monies that were allocated from the School District that we're looking at different ways to utilize those monies. One of the things that we're looking at is a computerized maintenance management system and we're also going to be looking at additional training for the staff we currently have in place in order to operate the system.

Alderman Garrity asked so if Johnson Controls does not provide the monitoring, is there more staff that's going to be required in your division?

Mr. Clougherty answered at this point in time we're looking at the possibilities of how exactly we're going to monitor it. We're going to have a limited number of schools coming up on the immediate basis, this fiscal year...

Alderman Garrity interjected when all 21 schools are up, are you going to have to have more staff?

Mr. Clougherty answered potentially. Yes, that's one of the additional maintenance requirements that we're looking at. We're looking at making sure that we are appropriately staffed as Jim had talked about in order maximize the benefits of the system.

Alderman Garrity asked is that something Johnson Controls provides? Monitoring for the system?

Mr. Clougherty answered they could. There are third parties out there that we could contract with independently in order to provide that monitoring.

Chairman Herbert stated I did want this to be shown to the public and hopefully it has been. One of those areas that I don't think people quite understand and appreciate what's going on as part of the renovation of our school system.

Mr. Clougherty stated Mr. Chairman if I may; I just wanted to expand a little bit on the energy management. We didn't talk about that a lot and it ties directly into Alderman Garrity's questions relative to additional staff. This system is an energy management system. It's called facility management, it's called building management, whatever. One of the monikers is energy management. One of the things that is a significant benefit to the system is the management of the energy. How are you starting and stopping your heat recovery units, your air handling units, your boilers, your air conditioning systems, things like that. By maximizing the system's potential, we have the ability to say okay a school need to be at this temperature at this time, we don't need to start it two hours before, we know that this school takes 15 minutes, because we can historically trend it. So we're only starting that school 15 minutes before it's supposed to be occupied. And the same thing with the off times. We can schedule that through this computerized system so that we're running the equipment the least amount of time as possible and by utilizing strategies such as that, we're saving a significant amount of money. Enough money that it pays for the training and staffing of the system itself if you're doing it properly.

Chairman Herbert stated to say nothing to the fact that it improves the quality of the produce at the same time. Thank you very much from Johnson Controls and I hope everything turns out exactly as planned because I do know that we spend a

small fortune on energy and it wouldn't take a great percentage efficiency increase to result in some serious dollar savings. Best of luck to you.

Chairman Hebert addressed Item 4 of the agenda:

Update on the School Facilities Improvement Project.

Mr. Clougherty stated once again joining me is Ken Cornwell, Project Manager with Gilbane and Allen Jefferson, Project Manager with DMJM. As is customary, we'll use the same format. Allen will give us an update from our previous months' progress and Ken can forecast what is going to happen over this next very interesting month.

Allen Jefferson, Project Manager, DMJM, stated let's update the previous months' progress for mid June to mid July. There are actually 14 schools currently under construction. Central High School has fireproofing ongoing, link demolition was initiated immediately after the close of school. Everybody who has gone by the site has seen the structural steel is up. The garage floor placement has actually been completed. The courtyard slab waterproofing has commenced and also I think the finished slab installation is all done as I witnessed this morning. Exterior wall insulation is ongoing and also the brick installation and removal to facilitate the garage entrance, that's also ongoing. West High School the ceiling grid installation in the new and existing building is ongoing, exterior walls and windows are almost complete, auditorium restoration is ongoing as is in Central High School, so fire protection and alarm systems are being installed. For everybody that's visited the site actually the student inclusion program has concluded over at West High School, which was the restoration of the courtyard is actually ongoing and have some landscaping to do. Memorial High School the gymnasium concrete block construction is complete, foundation construction is complete also at the classrooms and steel erection and decking is complete also on that. The interior renovation, mechanical and electrical and plumbing installation is ongoing, boiler demolition is also ongoing. Gossler Park, four the remaining seven rooftop units have been set and I think they need some final tie offs for the units. Also the installation of the roof is ongoing and the abatement is completed at three of the 11 schools, Gossler Park, Southside, and Weston. The abatement of those schools is complete and eight are ongoing. I believe also the abatement in some of these schools is being done in phases, they are grabbing certain geographic areas of the buildings and I believe at Park Varney, Highland Goffs Falls, and Hallsville and you can correct me if I'm wrong, Phase I abatement has been completed at those three schools, and starting with Phase II which is basically a different region within the school. Webster Elementary School, fin tube radiation, pipe demotion ongoing, chimney rebuilding is ongoing at that

location. At Hillside the cafeteria foundation is complete, the classroom foundation is complete, the concrete block erection is ongoing, boiler demolition is ongoing and the roof installation is ongoing. I believe also when I visited the site this morning, I think the flooring at Hillside is nearly completion and actually at Southside it is complete at this time. Hillside and Southside, the scopes on the actually progress of two jobs are very similar one has a certain scope that's ahead of the other and that is the concrete block for the classrooms and cafeteria on ongoing. At Smyth the interior painting is complete and at Jewett it is nearing completion, I think the last major area for completion is the gymnasium painting. Roofing work is nearing completion and the final checks and balances of the air links is ongoing. Weston Elementary School, once again the abatement is complete and floor installation has commenced and the ceiling demolition to facilitate MEP installation is ongoing. Again, abatement activities in three schools have been completed and eight schools are ongoing. I will turn this over to Ken and he can update us on what's upcoming.

Ken Cornwell, Ken Cornwell, Project Manager, Gilbane, stated the Chairman asked me earlier how I felt about our progress. A reminder that school got out on June 21st or the 23rd. I do know that I reminded my guys this morning that there are 37 days left and I'm pleased to report that we're on schedule and on target for school opening. Actually we've got a program, Barbara is here, and we've actually have numerous meetings with AirMark. Not only are we putting it back together we're also cleaning and getting ready for school, which is an important issue, putting it together and having it usable is always a point. Just to give you some numbers about people. I've been telling you that we were going to peak in the summer of 2004, around 800 people, just a quick count, and I was going to stretch the numbers today but we're in the 600 to 700 range right now for people. We are coming to our peak in the next two weeks, so out of those men and women that are working on this job, 17 percent of those are taxpayers. Residents that live in the City, pay taxes. We've got 14 schools under construction, have a great safety record, there have been no major injuries, we've had some cuts and slices and a few stubbed toes, which we're pleased to say, actually please with the progress. Central High School as Allen had talked about is probably our biggest challenge I think and everybody realizes Central is our biggest project. We did in fact demolish the connector the day after school was out and intend to have that connector enclosed and operational for the kids on the second floor on the opening day of school. The kids will have plaza access, buses will be back on Concord and Ash Streets, cars will be open to the public, we'll be inside the building working. We're on target to turn our first Phase over in that building in the fall the best of it being completed before the end of the year with the new building. Renovations will continue through next summer. So right now the place looks as somebody told me this morning looks like a bombed out bunker, but believe me I think you'd be pleased if you had the chance to walk through it. The Practical Arts has new

floors in it and is ongoing. The auditorium is empty. It is empty of chairs, carpet, there is staging is up now and the painting is about three quarters done, so the restoration is on target for that. The gymnasium floor is gone, the gymnasium floor will be replaced over the next five weeks and will be open for school. The Classical building, new floors are underway. There's a tremendous amount going on and not to bore you but it's just an ongoing effort this year target was to abate, replace the floors and do as much as we could of painting. As Allen alluded to, without going to every one the schools, over the next six days we will finishing abating all of the schools that we intended to tackle this year. All 14 schools will be abated, new finishes ongoing. We'll target the next schools next year. There are five on board for next year and to finish up anything we missed this year will get picked up in the following years. When the furniture arrives at West High School we're due to turn over the administrative area at West High School the 16th of August. I think we're going to have furniture the 16th, so probably around the 17th or 18th they'll occupy the new building, office administrative area. We've already taken over the rest of the old administrative area in the classrooms; the new classrooms will be open for class to start in September. A new elevator is ready now, it should be going under testing in the next two weeks. That was one of our criteria to get the elevator up and running. Fire alarm systems are due to be tested next week. We're on target at West as far as beginning completion. The media center at West right now is taken apart. Will be a brand new state-of-the-art media center and they will have it back when school opens as well. We're feeling pretty good about that. Memorial High School probably is the one that's going to be under construction the longest. Memorial is the school that we're actually work through right up until next August, so we are in Memorial now doing asbestos abatement, we are in fact, the new building is up, the steel is up now, we need to put roof tresses on the new gymnasium. We should be pretty much inside the school by September; it will look like a building there. Southside, Hillside challenges themselves. The addition at Southside is a little farther along than the one at Hillside. It is the steel going up first floor deck at Southside soon, the cafeteria addition should be up. Hillside's cafeteria is already up; the expansion has already been opened up to the old building. The kids will have benefit of cafeteria expansion at both schools when school starts it will be finished. I want to say probably 35 percent of the ceilings will be back in that school. We are going to try to expedite putting them back, unlike Jewell and Smyth we kept them out all year. We'll try to put them back as fast as we go. Parkside is under the same issue. We're actually putting ductwork in there right now. The abatement is just about finished at Parkside. Goffs Falls and Parker Varney are now under abatement, just about done. Those two jobs, one of them will stop and the other one will continue and I believe it is Goffs Falls we're going to work on the rest of the year. At Parker Varney we're going to try to finish, we only did the abatement because we know we're going to come back to it before next summer, so that's been abated. Hallsville is under construction, about 65 percent of the flooring is in

there now and we'll continue to work on that. That was a complete removal of a boiler and the heating system is gone out of that school. So it is a brand new heating system, brand new heating plant, brand new air conditioning systems. You heard Johnson talk here a few minutes ago, they are part of this team and that system will be back on line very soon. Actually we had a great marriage performed. Webster, the school at the north end is in the same way, floors are ongoing there, new mechanical systems are ongoing and we're actually right on target. I would like to share with you; I shared with the Chairman earlier, I had the benefit in the year of 2002 to walk every one of these schools before we put the first pencil to the paper, the first nail in the board. I walked through these schools and some of the schools I think we all would all agree were in need of some help. I walked into Jewett Street school on Monday and the systems are up and running. It was like a breath of fresh air as you can actually breath the same air outside as you can inside and I think it's just a wonderful thing that the money that taxpayers are paying and the School Board and the foresight you had to invest the money is actually going to pay off and I would welcome taking anybody, I know Tim would as well, to show you what we've done, because it's not we, when I say we I mean all of us, you just enabled us to be a tool to do it and I think it's a great thing.

Alderman Roy stated in reading the report on Manchester resident hours. I know Gilbane is not listed, but I know you've got a great investment in the City I believe with new offices and things like that. Your staff, is that mostly local, commuting?

Mr. Cornwell answered my entire staff of 33, which are Gilbane engineers, architects, management people, out of my staff I believe there are four City residents, three or four, here now. Of course you know our offices here at City Hall Plaza recently moved in May of this year up from Nashua, which was always our plan. As you all know I've done quite a bit of building here and I'd like to stay here and build some more so our office is here. But I'm New Hampshire based, which all of our Gilbane employees and actually on my job, they are all New Hampshire based people.

Alderman Roy stated I appreciate that and in looking at the report, one of things that I'd like to see is the total hours worked. The 17 percent is very important to us and the 10 percent you just stated in your company is also very important but it's nice to see the actual man-hours that are going into this process that I don't think the taxpayers get to see. I think they see the total job project and I think when schools reopen they'll see the beauty as you just expressed that we're all aware of, but I think it's wonderful to see the total hours going into everything from stain killing to abatements to painting and flooring it is a very large scope project so thank you.

Alderman Roy stated I know at this meeting we can't take action on Item 5, but I do want to thank Tim and the representatives that are here to thank you for your patience and make sure that you're aware of the Solicitor's findings that it was the correct use of the contingency fund, so thank you for your patience while we figured this out and thank you for the good advice leading into this. You were correct.

Item 5 was not addressed due to the lack of a quorum.

Communication from Solicitor Clark relative to proper use of contingency funds in the amount of \$381,106 for the new stairwells at Southside and Hillside Middle Schools.

The meeting was adjourned.

A True Record. Attest.

Clerk of Committee